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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PHAN, HAU VAN

ART UNIT

PAPER NUMBER

3618

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,644	Applicant(s) HOMMI, AKIRA	
	Examiner Hau V. Phan	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-14 and 17-21 is/are rejected.
- 7) ☒ Claim(s) 9, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. The amendment filed on 1/11/2008 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 10-14 and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohtsu et al. (5,476,310).

Ohtsu et al. in figures 1-11, discloses a vehicle equipped with a power output device including an electric motor (6) that is capable of outputting a driving force to a drive shaft linked with left and right wheels (8a, 8b). The vehicle comprises a mechanical braking device (9) that is capable of outputting a mechanical braking force to each of the left and right wheels. Ohtsu et al. also disclose a slip detection module (2b) that detects a slip on each of the left and right wheels caused by wheelspin and a controller (1) that, in response to detection of a slip caused by spin of one of the left and right wheels by the slip detection module, drives and controls the power output device to restrict the driving force output to the drive shaft, and after the driving force output to the drive shaft has been restricted, actuates and controls the mechanical

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braking device to output a mechanical braking force to the spinning one of the left and right wheels (col. 4, lines 46-67, when the brake actuated the power output from the motor, which has a driving force will be reduced and col. 7, lines 3-18).

Regarding claim 2, Ohtsu et al. disclose the controller actuating and controlling the mechanical braking device to output a braking force to the spinning one of the left and right wheels, so as to distribute the driving force output from the power output device to the drive shaft practically equally into the left and right wheels (col. 5, lines 2-8, equally brake pressure to all the wheels of the vehicle).

Regarding claim 3, Ohtsu et al. disclose a road surface gradient measurement estimation module that either measures or estimates a road surface gradient, wherein the controller actuates and controls the mechanical braking device, in response to detection of at least a converging tendency with regard to the spin of one of the left and right wheels, to output the braking force to the spinning one of the left and right wheels, based on the measured or estimated road surface gradient (col. 10, lines 55-67, disclose a slip ratio between the wheels and a road surface).

Regarding claim 4, Ohtsu et al. disclose the road surface gradient measurement estimation module estimating a balancing force, which balances with a force applied to the vehicle in a direction along a road surface based on an acceleration of the vehicle and the driving force output from the power output device, as the road surface gradient, and the controller calculates a supplementary braking force corresponding to an insufficiency of the driving force output from the power output device to the drive shaft relative to the estimated balancing force, and actuates and controls the mechanical

braking device to output a total braking force including the calculated supplementary braking force to the spinning one of the left and right wheels.

Regarding claim 5, Ohtsu et al. disclose an upper limit braking force setting module that sets an upper limit of the braking force output to the spinning one of the left and right wheels, wherein the controller actuates and controls the mechanical braking device to output the braking force in a range of the setting of the upper limit to the spinning one of the left and right wheels.

Regarding claim 6, Ohtsu et al. disclose a vehicle speed sensor that measures a vehicle speed, wherein the upper limit braking force setting module sets the upper limit of the braking force, based on the measured vehicle speed.

Regarding claim 7, Ohtsu et al. disclose a road surface gradient measurement estimation module that either measures or estimates a road surface gradient, wherein said upper limit braking force setting module sets the upper limit of the braking force, based on the measured or estimated road surface gradient.

Regarding claim 8, Ohtsu et al. disclose controller actuating and controlling the mechanical braking device to output the mechanical braking force to the spinning one of the left and right wheels, subject to fulfillment of a predetermined execution condition.

Regarding claim 10, Ohtsu et al. disclose controller terminating the output of the braking force to the spinning one of the left and right wheels, when the predetermined execution condition fails to be fulfilled in the course of the output of the braking force to the spinning one of the left and right wheels.

Regarding claim 11, Ohtsu et al. disclose a vehicle speed sensor that measures a vehicle speed, wherein the controller terminates the output of the braking force to the spinning one of the left and right wheels, when the measured vehicle speed exceeds a threshold value in the course of the output of the braking force to the spinning one of the left and right wheels.

Regarding claim 12, Ohtsu et al. disclose a road surface gradient measurement estimation module that either measures or estimates a road surface gradient, wherein the threshold value is set according to the measured or estimated road surface gradient.

Regarding claim 13, Ohtsu et al. disclose the threshold value is set to decrease with an increase in road surface gradient as an ascending slope.

Regarding claim 14, Ohtsu et al. disclose the controller terminating the output of the braking force to the spinning one of the left and right wheels, in response to detection of a slip caused by spin of the other wheel of the left and right wheels by the slip detection module in the course of the output of the braking force to the spinning one of the left and right wheels.

Regarding claim 17, Ohtsu et al. disclose the controller prohibits output of a braking force in response to spin of one of the left and right wheels over a predetermined second time, after the termination of the output of the braking force.

Regarding claim 18, Ohtsu et al. disclose a lock detection module that detects a lock of each of the left and right wheels, wherein the controller terminates the output of the braking force to the spinning one of the left and right wheels, in response to detection of a lock of the spinning one of the left and right wheels by the lock detection

module in the course of the output of the braking force to the spinning one of the left and right wheels.

Regarding claim 19, Ohtsu et al. disclose a revolution speed measurement sensor that respectively measures revolution speeds of the left and right wheels; and a rudder angle measurement estimation module that either measures or estimates a rudder angle, wherein the slip detection module detects a slip on each of the left and right wheels, based on the measured revolution speeds of the left and right wheels and the measured or estimated rudder angle.

Regarding claim 20, Ohtsu et al. disclose slip detection module detects a slip caused by spin of a drive wheel, based on at least one of an angular acceleration of the drive shaft and a difference between revolution speeds of drive wheels as the left and right wheels linked with the drive shaft and revolution speeds of driven wheels with no output of driving force, and the controller drives and controls the power output device to restrict the driving force output to the drive shaft, in response to detection of a slip caused by the spin of the drive wheel.

Allowable Subject Matter

4. Claims 9 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau V. Phan whose telephone number is 571-272-6696. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on 571-272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hau V Phan/
Primary Examiner, Art Unit 3618